Listing of the Claims

1. (cancelled)

2. (cancelled)

3. (cancelled)

4. (cancelled)

5. (cancelled)

6. (cancelled)

7. (cancelled)

8. (cancelled)

9. (Previously presented) The method of claim 1, wherein the first plasma etching process comprises supplying microwave power at a power level of from about 1000 to about 1500 Watts.

10. (currently amended) A method for plasma etching with ~~improved~~ etching selectivity for a low-K carbon containing dielectric material layer and underlying etch stop layer comprising the steps of:

providing a substrate comprising a low-K carbon containing dielectric material layer overlying a nitride containing etch stop underlayer;

providing a photoresist layer overlying the low-K carbon containing dielectric material layer;

defining a pattern comprising the photoresist layer such that a portion of the low-K carbon containing dielectric material layer is exposed for etching; and,

carrying out a first plasma etching process by introducing a gas comprising ~~hydrogen containing~~ fluorocarbons, nitrogen, and oxygen at a nitrogen to oxygen ratio of at least about 10 ~~to etch~~ and a fluorine to carbon ratio within a range of about 2 to about 3 into the etch chamber to etch through a thickness portion of the low-K carbon containing dielectric material layer.

11. (cancelled)

12. (cancelled

13. (Previously presented) The method of claim 10, wherein the low-K carbon containing dielectric material layer has a dielectric constant of at most about 3.0.

14. (cancelled)

15. (cancelled)

16. (cancelled)

17. (Previously presented) The method of claim 10, wherein the first plasma etching process comprises a pressure from about 40 to about 60 millitorr.

18. (Previously presented) The method of claim 10, wherein the first plasma etching process comprises supplying microwave power at a power level of from about 1000 to about 1800 Watts.

19. (Previously presented) The method of claim 10, further comprising the steps of:

supplying nitrogen at a flow rate from about 150 to about 300 sccm; and,

supplying oxygen at a flow rate from about 2 to about 10 sccm; and,

supplying at least one hydrofluorocarbon at a flow rate from about 5 to about 15 sccm.

20. (Previously presented) The method of claim 10, further comprising a second plasma etching process wherein oxygen is not provided during etching through the nitride containing underlayer.

21. (cancelled)

22. (Currently amended) The method of claim 10, wherein the ~~at least one hydrogen containing~~ fluorocarbon is selected from the group consisting of C_4F_6, C_5F_8, or C_4F_6, and mixtures thereof.

23. (Currently amended) A method for plasma etching a via opening with ~~improved~~ nitride and low-K carbon containing IMD layer etching selectivity with respect to a photoresist layer comprising the steps of:

providing a substrate comprising a low-K carbon containing IMD layer including an overlying nitrogen containing dielectric anti-reflective coating (DARC) layer and an underlying etch stop layer;

forming and patterning a photoresist layer overlying the DARC layer;

carrying out a first plasma etching process by introducing a gas consisting essentially of hydrogen containing fluorocarbons, nitrogen, and oxygen at a nitrogen to oxygen ratio of at least about 5 into the etch chamber to etch through a thickness of the DARC layer;

carrying out a second plasma etching process comprising hydrogen containing fluorocarbons, nitrogen, and oxygen at a nitrogen to oxygen ratio of at least about 10 to etch and a fluorine to carbon ratio within a range of about 2 to about 3 to etch through a thickness portion of the low-K carbon containing IMD layer; and,

carrying out a third plasma etching process consisting essentially of hydrofluorocarbons and nitrogen to etch through a thickness of the etch stop layer.

24. (Previously presented) The method of claim 23, wherein the DARC layer comprises silicon oxynitride.

25. (Previously presented) The method of claim 23, wherein the low-K carbon containing IMD layer has a dielectric constant of at most about 3.0.

26. (Previously presented) The method of claim 23 wherein the first plasma etching process comprises a nitrogen to oxygen ratio of about 5 to 1 to about 150 to 1.

27. (Previously presented) The method of claim 23 wherein the second plasma etching process comprises a nitrogen to oxygen ratio of about 15 to 1 to about 150 to 1.